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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/478,884	01/07/2000	KAZUYUKI KURODA	35.C14215	2326

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

SIMONE, CATHERINE A

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 07/02/2003

22

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/478,884

Applicant(s)

KURODA ET AL.

Examiner

Catherine Simone

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on April 10, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4-61 is/are pending in the application.
- 4a) Of the above claim(s) 24-47, 53 and 54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-23, 48-52 and 55-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-23, 58 and 59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation “made of a polymer compound whose chains or molecules are oriented in a second direction” in claim 1 is deemed vague and indefinite. Clarification is requested.

The recitations “in which chains of the polymer material are oriented in a first direction parallel to the polymer material surface” and “nearly perpendicular” in claim 13 are deemed vague and indefinite. Clarification is requested.

Claim 49 recites the limitation "the rubbing direction" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 58 recites the limitations "the first region" and “the second region” in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 59 recites the limitation "the first region" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. **Claims 1, 2, 4-8, 11-17, 19, 22, 23, 48-52 and 55-61** are rejected under 35 U.S.C. 102(e) as being anticipated by Aksay et al. (6,004,444).

Regarding **claims 1, 48, 50, 55, 60 and 61**, Aksay et al. discloses a mesostructured material comprising tubular mesopores, which are oriented in a first direction (Fig. 9; also see col. 9, lines 20-24 and lines 57-64) and which are arranged on a polymeric surface made of a polymer compound whose chains or molecules are inherently oriented in a second direction (Fig. 9; also see col. 7, lines 34-37). Regarding **claim 2**, the mesostructured material contains silicon (col. 8, line 49). Regarding **claims 4, 5, 51 and 52**, the first direction and second direction are different from each other (col. 11, lines 27-30). Regarding **claim 11**, note the polymeric surface is constituted of a polymeric film arranged on a substrate, and the mesostructured material is

Art Unit: 1772

formed on a free surface of the polymeric film (see col. 15, lines 1-18 and 24-40). Regarding **claim 12**, the substrate material is made of a glass (see col. 15, line 26).

Regarding **claim 13**, Aksay et al. discloses a mesostructured material comprising a polymer material surface (col. 7, lines 34-37) in which chains of the polymer material are inherently oriented in a first direction parallel to the polymer material surface; and a material provided on the polymer material surface, the material having tubular mesopores (Fig. 9; also see col. 9, lines 25-33), wherein the tubular mesopores are oriented in a second direction nearly perpendicular to the first direction (col. 11, lines 27-30), the oriented tubular mesopores are formed on the polymer material surface with silica located outside of an oriented surfactant micelle structure of which orientation is determined by parallel accommodation of molecules of the surfactant on the chains of the polymer material through chemical interaction (see col. 9, lines 41-46). Regarding **claim 14**, note the surfactant is a cationic surfactant (col. 10, lines 29-31). Regarding **claims 15-17**, note the cationic surfactant is a quaternary alkylammonium salt (see col. 10, lines 29-31). Regarding **claim 22**, the mesopores are hollow (col. 9, lines 30-31). Regarding **claim 23**, note the polymer material surface is constituted of a film of the polymer material, the film being arranged on a substrate, and the substrate is made of silicon oxide (see col. 15, lines 24-31).

Regarding **claims 6, 7, 8, 19, 48, 49, 56 and 57**, process limitations are given little or no patentable weight. The method of forming the product is not germane to the issue of patentability of the product itself. Further, when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the Applicant to present evidence from which the

Art Unit: 1772

Examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown*, 459 F.2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman*, 489 F.2d 742, 180 USPQ 324 (CCPA 1974). This burden is NOT discharged solely because the product was derived from a process not known to the prior art. *In re Fessman*, 489 F.2d 742, 180 USPQ 324 (CCPA 1974).

Furthermore, the determination of patentability for a product-by-process claim is based on the product itself and not on the method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 946, 966 (Fed. Cir. 1985) and MPEP §2113. In this case, the limitations “the polymeric surface is constituted of a Langmuir-Blodgett film” (claims 6, 19 and 56), “has been rubbed” (claim 7), “has been rubbed in the first direction” (claim 8), “is determined by a direction of a rubbing treatment of the polymeric surface” (claim 48), “the rubbing direction” (claim 49) and “formed by transferring a monomolecular film developed on an aqueous surface onto a substrate” (claim 57) are methods of production and therefore do not determine the patentability of the product itself.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1772

6. **Claims 9, 10, 18, 20 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Aksay et al. (6,004,444).

Aksay et al. discloses a mesostructured material comprising tubular mesopores, which are oriented in a first direction and which are arranged on a polymeric surface made of a polymer compound whose chains or molecules are oriented in a second direction. However, Aksay et al. fails to disclose the polymeric surface containing a polyimide and the nonionic surfactant being an alkylamine or a surfactant containing polyethylene oxide as a hydrophilic group. It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have the polymeric surface in Aksay et al. contain a polyimide and to have the surfactant in Aksay et al. be a nonionic surfactant being an alkylamine or a surfactant containing polyethylene oxide as a hydrophilic group, since it had been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 2, 4-23, 48-52 and 55-61 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Simone whose telephone number is (703) 605-4297. The examiner can normally be reached on 9:30-6:00.

Art Unit: 1772


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (703) 308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Catherine Simone
Examiner
Art Unit 1772

June 24, 2003



HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772 6/25/03